

Appl. No. 10/601,270
Amdt. dated July 6, 2004
Reply to Office Action of April 21, 2004

AMENDMENTS TO THE CLAIMS

Claims 1-3 were previously canceled. New claims 4-5 were previously presented.

Please cancel claim 5 without prejudice and amend claim 4 as set forth in the following listing of the claims.

Claims 1-3 (cancelled)

4. (currently amended) A method of manufacturing a hollow shaft (b) with a flange (a) at one end thereof, comprising the steps of:

preparing a movable die (17) with an upper recess (17a) on an inside surface thereof and a mandrel (20) at a center position thereof;

placing a fixed die (18) under said movable die (17) with a lower recess (18a) on an inside surface thereof;

inserting a steel pipe (19) between said movable die (17) and said fixed die (18);

clamping said steel pipe (19) in a vertical direction by said movable die (17) and said fixed die (18);

engaging said mandrel (20) into said steel pipe (19); and pressing the steel pipe (19) while performing a shear spinning treatment on an outer peripheral surface of said steel pipe (19) so as to reduce an outside diameter thereof and to integrally form said flange (a), wherein said hollow shaft (b) and said flange (a) are composed of 0.2 - 0.6 wt% of C, 0.01 - 0.1 wt% of Si, 0.05 - 0.5 wt% of Mn, 0.001 - 0.01 wt% of B, 0.01 - 0.1 wt% of Ti or Nb, with the balance being Fe, and are subjected to a heat treatment upon being combined into an integral body, so as to ensure an improved ductility and thus an improved plastic workability.

Claim 5. (cancel)